UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,544	04/06/2000	Atsushi Uchino	Q58637	7510

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EXAMINER
RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
2665	/5

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/544,544	UCHINO, ATSUSHI
Office Action Summary	Examiner	Art Unit
	Daniel J. Ryman	2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2004*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9 and 13-17* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9 and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see Response, filed 2/26/2004, with respect to the rejection(s) of claim(s) 1, 2, 5-9, and 15-17 under Dinkin et al (USPN 5,224,205) in view of France et al (USPN 5,754,790) have been fully considered. While not persuasive, Examiner believes that Arrowood et al (USPN 4,827,411), to which Dinkin directly refers, will provide clearer teachings than France et al (USPN 5,754,790) and thus remedy any misunderstandings concerning the rejection. Therefore, the previous rejection has been withdrawn; however, a new ground(s) of rejection is made in view of Dinkin et al (USPN 5,224,205) in view of Arrowood et al (USPN 4,827,411).

2.   In addition, with regard to claim 16, Applicant argues that although the broadcast can be sent to all domains, there is no suggestion in Dinkin of which order all of the domains will receive the broadcast. Examiner agrees that Dinkin does not suggest which order the domains should receive the broadcast; however, the limitations of the claim do not require that a transmission order is determined. Examiner submits that the claim only requires that there are no broadcast packets sent to any other domain prior to sending the broadcast packet to the domain with the fewest hopcounts. The limitation does not require that the broadcast packets cannot be sent simultaneously. As such, by sending the broadcast packet to all domains simultaneously, Dinkin reads on the limitation of the claim. If Applicant desires the claim to contain a limitation which specifies a transmission order, Applicant should further amend the claim to include such limitations, such as "first sending the broadcast packet to at least one of said plurality of domains with the fewest hopcounts before sending the packet to any other domains".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 5-9, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkin et al (USPN 5,224,205) in view of Arrowood et al (USPN 4,827,411).

5. Regarding claims 1, 5, and 7, Dinkin discloses a node-search method and device in a network, comprising: a host (network interface means) of a first domain (interface node) (col. 5, lines 9-11); the host, sending a broadcast packet, for requesting a response from a node which provides a specific service, to at least any one of said plurality of domains other than the first domain which is listed in routing information (col. 2, line 51-col. 3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37; and col. 8, line 53-col. 9, line 21) where if a resource is not found with a limited search, then the interface node initiates broadcast searches of other domains; and receiving a response packet for said broadcast packet and detecting the node which sent the response packet (col. 6, line 54-col. 8, line 37). Dinkin does not expressly disclose that the host of a first domain acquires a packet which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit (network node); however, Dinkin does disclose that the interface node uses routing information to perform the search (col. 7, lines 4-12). Dinkin also discloses that the network is configured with a plurality of domains including the first domain connected to at least one interworking unit (network node) (col. 2, line 51-col. 3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37; and

col. 8, line 53-col. 9, line 21). Dinkin further discloses that the topology and resources are

maintained in a distributed database as is described in Arrowood (col. 4, lines 51-57). Arrowood

discloses that a node of a first domain acquires a packet which includes routing information of a

network in order to keep the database updated (col. 3, line 63-col. 4, line 7 and col. 5, line 40-col.

6, line 10). It would have been obvious to one of ordinary skill in the art at the time of the

invention to have the host of a first domain acquire a packet which includes routing information

of a network configured with a plurality of domains including, the first domain connected to at

least one interworking unit in order to keep the routing database updated. Dinkin in view of

Arrowood does not expressly disclose that the process is implemented by a program in a

computer-readable storage medium; however, Examiner takes official notice that implementing a

method in software is very well known.

6.   Regarding claims 2, 6, and 8, Dinkin discloses a node-search method and device in a

network, the method comprising the steps of and the device comprising means for: sending a

broadcast packet, for requesting a response from a node that provides a specific service, from

said host (interface node) to a domain which is listed in routing information (col. 2, line 51-col.

3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37; and col. 8, line 53-col. 9, line 21); and

receiving, in said host, a response packet in response to said broadcast packet, and detecting the

node which sent the response packet (col. 6, line 54-col. 8, line 37). Dinkin does not expressly

disclose sending a packet, for requesting routing information from the network which is

connected to an interworking unit (network node), from a host to the interworking unit, where

the interworking unit is capable of storing routing information set in advance or receiving, in said

host, a packet containing said routing information; however, Dinkin does disclose that the

interface node uses routing information to perform the search (col. 7, lines 4-12). Dinkin also

discloses that the network is configured with a plurality of domains including the first domain

connected to at least one interworking unit (network node) (col. 2, line 51-col. 3, line 3; col. 3,

lines 24-32; col. 6, line 54-col. 8, line 37; and col. 8, line 53-col. 9, line 21). Dinkin further

discloses that the topology and resources are maintained in a distributed database as is described

in Arrowood (col. 4, lines 51-57). Arrowood discloses that a node of a first domain acquires a

packet which includes routing information of a network in order to keep the database updated

(col. 3, line 63-col. 4, line 7 and col. 5, line 40-col. 6, line 10). As broadly defined, each interface

node sends a packet that requests routing information when it sends its own updates since each

update allows other nodes to recognize the position and active status of the sending node (col. 9,

lines 25-38) where, if the node does not send an update, the node and all links connecting the

node to other nodes will be deleted from the topology lists of the other nodes. It would have been

obvious to one of ordinary skill in the art at the time of the invention to send a packet, for

requesting routing information from the network which is connected to an interworking unit

(network node), from a host to the interworking unit, where the interworking unit is capable of

storing routing information set in advance and to receive, in said host, a packet containing said

routing information in order to keep the routing database updated. Dinkin in view of Arrowood

does not expressly disclose that the process is implemented by a program in a computer-readable

storage medium; however, Examiner takes official notice that implementing a method in

software is very well known.

7.   Regarding claim 9, referring to claim 8, Dinkin in view of Arrowood discloses that the interworking unit is a router (Arrowood: col. 1, lines 14-20) where a device that routes messages and selects routes is taken to be a router.

8.   Regarding claim 15, referring to claim 1, Dinkin in view of Arrowood discloses that a plurality of interworking units exist in the network, wherein at least one of said plurality of interworking units is a bridge, a brouter, or a router (Dinkin: Fig. 1 and col. 5, lines 9-11 and Arrowood: col. 1, lines 14-20) where a device that routes messages and selects routes is taken to be a router.

9.   Regarding claim 16, referring to claim 15, Dinkin in view of Arrowood suggests first sending the broadcast packet to at least one of said plurality of domains with the fewest hop counts (Dinkin: col. 2, line 51-col. 3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37, esp. col. 7, lines 48-51; and col. 8, line 53-col. 9, line 21) where Dinkin discloses broadcasting the message to all domains which will include the domain with the fewest hop counts.

10.   Regarding claim 17, referring to claim 15, Dinkin in view of Arrowood suggests first sending the broadcast packet to at least one of said plurality of domains with a hop count less than a specified number (Dinkin: col. 2, line 51-col. 3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37, esp. col. 7, lines 48-51; and col. 8, line 53-col. 9, line 21) where Dinkin discloses sending the broadcast message to nodes that are only a single hop count away.

11.   Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkin et al (USPN 5,224,205) in view of France et al (USPN 5,754,790).

12.   Regarding claims 4 and 13, Dinkin discloses a node-search method in a network, comprising the steps of: acquiring information indicating a network number and an address of a

router of each domain in the network (col. 7, lines 4-12), where Examiner takes official notice that network numbers and address of each router are well known pieces of routing information; and broadcasting, based on said acquired information, into a specific network so as to search for a node (col. 2, line 51-col. 3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37; and col. 8, line 53-col. 9, line 21). Dinkin does not disclose that the routing information is received using an RIP packet. France teaches that using RIP packets is a well-known method to distribute routing information (col. 1, line 14-col. 2, line 30). It would have been obvious to one of ordinary skill in the art at the time of the invention to use RIP packets to distribute the routing information since RIP packets are well known in the art. Dinkin in view of France does not expressly disclose broadcasting to a specific domain using a specific port number; however, Examiner takes official notice that it is well known in the art to use specific port numbers to broadcast to a specific domain since each network domain is connected to the internetworking unit via a specific port. Dinkin in view of France does not expressly disclose that the process is implemented by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

13.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkin et al (USPN 5,224,205) in view of Ahearn et al (USPN 5,926,463).

14.   Regarding claim 14, Dinkin discloses a process of acquiring information indicating a network number and an address of a router of each domain of said plurality of domains (col. 7, lines 4-12), where Examiner takes official notice that a network number and router address are well known pieces of routing information; a process of broadcasting into at least any one of said plurality of domains other than the first domain, based on said acquired information so as to

search for a node (col. 2, line 51-col. 3, line 3; col. 3, lines 24-32; col. 6, line 54-col. 8, line 37, esp. col. 7, lines 48-51; and col. 8, line 53-col. 9, line 21). Dinkin does not expressly disclose that the routing information is acquired by receiving an SNMP (Simple Network Management Protocol) packet from at least one router of a network configured with a plurality of domains including the first domain. It is also well known in the art to use packets to allow interface nodes, such as routers, to update their network maps using SNMP packets in order to have the maps accurately reflect any changes in the network, as is evidenced by Ahearn (col. 12, lines 3-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an SNMP packet which includes routing information in which a domain in the network is listed in order to ensure that all interface nodes have an accurate map of the networks which the interface nodes are connecting. Dinkin in view of Ahearn does not expressly disclose broadcasting to a specific domain using a specific port number; however, Examiner takes official notice that it is well known in the art to use specific port numbers to broadcast to a specific domain since each network domain is connected to the internetworking unit via a specific port. Dinkin in view of France possibly does not expressly disclose that the process is implemented by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

Conclusion

15.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baratz et al (USPN 4,914,571) see entire document which is relied upon heavily by Dinkin which also discloses that any node can initiate a search (col. 2, lines 28-37) and that a

node acquires routing information through searches, where a search would necessitate sending a request for information (col. 5, lines 17-45, esp. col. 7, lines 31-34).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

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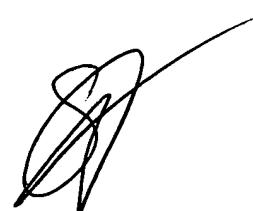
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